

SYSTEM302 SPECIFICATIONS (cont.)

10.2.3	Signal Isolation	Isolated
10.3	Discrete I/O Modules	
10.3.1	Signal Types	Inputs: 30 Vdc; 60 Vdc; 75 Vdc; 140 Vdc 140 Vdc; 140 Vac; 264 Vac Outputs: Transistor - Sink; Transistor - Source; Triac; NO/NC Relays (250 Vac/110 Vdc/5 A)
10.3.2	No. of Channels	8 or 16
10.3.3	Signal Isolation	Isolated
10.4	Pulse Input Modules	
10.4.1	Signal Types	Up to 10 kHz
10.4.2	No. of Channels	16
10.4.3	Signal Isolation	Isolated
10.5	HART Input and Output Modules	
10.5.1	Signal Types	HART + 4-20 mA
10.5.2	No. of Channels	8
10.5.3	Signal Isolation	Isolated
11	FOUNDATION FIELDBUS	
11.1	FF Interface Model	DF51. The DF51 is a full-featured FF HSE Linking Device and a full-featured system controller. The FF H1 networks are directly connected to the SYSTEM302's controllers.
11.2	FF Protocols Supported	FF H1; FF HSE
11.3	Interface Redundancy	Dual Redundancy in separate backplanes with totally separate power supplies for improved reliability and availability.
11.4	No. of FF HSE ports / DF51	1
11.5	No. of FF H1 ports / DF51	3
11.6	No. of Fieldbus Devices / channel	12 Devices / port. Eight (8) devices per port is recommended for initial projects.
11.7	Communication Speed	31.25 kbps (H1); 10/100 Mbps (FF HSE)
11.8	24Vdc Fieldbus Power Supply	Independent Power Supply for Fieldbus (DF52)
11.9	Fieldbus Power Redundancy	Dual Redundancy in separate Backplanes for improved reliability and availability.
11.10	No. of function blocks available / DF51	Up to 100 function blocks for each DF51 in the system.
11.11	Max. number of function blocks in the Field / DF51	Unlimited
11.12	FF Multiple Variable Optimization	Yes
11.13	Function Block Instantiability	Yes
11.14	Flexible Function Block	Yes
11.15	No. of VCRs Available / DF51	244
11.16	No. of VCRs Avail. in Field Dev.	44
11.17	Fieldbus System Interoperability	
11.17.1	Host Interoperability Test Support	Yes
11.17.2	Interoperability with Field Devices	All Approved FF Devices are approved to be used with SYSTEM302
11.18	I.S. Fieldbus Isolators	
11.18.1	Models	"SB312"DF47"
11.18.2	Fisco Approval	Yes
12	FF CONVERTERS	
12.1	FF to 4-20 mA Converter	
12.1.1	Model	FI302
12.1.2	Signal type	4-20mA
12.1.3	Signal Isolation	Included
12.1.4	No. of Channels	3
12.2	4-20 mA to FF Converter	
12.2.1	Model	IF302
12.2.2	Signal type	4-20 mA
12.2.3	Signal Isolation	Included
12.2.4	No. of Channels	3
12.3	Hart to FF Converter	
12.3.1	Model 1	HI302-I; Hart/4-20 mA to FF Converter
12.3.2	Model 2	HI302-O; FF to HART/4-20 mA Converter
12.3.3	Model 3	HI302-N; Hart to FF Converter
12.3.4	Signal type	HART + 4-20 mA
12.3.5	Signal Isolation	Included
12.3.6	No. of Channels	8
12.3.7	Max. No. of Devices per Module	32
12.8	FF to Pressure Converter	
12.8.1	Model	FP302
12.8.2	Signal type	3 - 15 psi
12.8.3	No. of Channels	1
13	SERIAL COMM. MODULES	
13.1	Model No.	MB700
13.2	Comm. Protocol	MODBUS RTU and Modbus TCP/IP

13.3	Comm. Speed	9600 to 115200 bauds for serial ports 10/100 Mbps for Ethernet
13.4	Max. transmission distance	1200 m
13.5	Comm. Gateway Redundancy	DUAL Redundancy in different backplanes with different power supplies.
13.6	Data Concentration	The MB700 also concentrates data from different sources to make it available as a package to the system.
14	SOFTWARE PACKAGES	
14.1	Operating System Platform	Windows NT, Windows 2000 or Windows XP
14.2	Eng. Package for Process Control	Syscon
14.3	Eng. Package for Discrete Control	LogicView
14.4	Field Device Asset Management Package	Asset View
14.5	Operation Package	ProcessView * Other OPC based supervision package can be used
14.5.1	Supervision Package	Graphworks
14.5.2	Alarm Package	Alarmworks
14.5.3	Historical Trend Package	Trendworks
14.6	FF Bus Analyser Package	FBView
14.7	Auto-Tuning Package	Expertune or Any OPC Auto -Tuning Package
14.8	Database Package	MS MSDE or MS SQL
14.9	Standard Screen Types	Main Screen Overview Screen Control Screen (Group Screen) Tuning Screen (Point Screen) Process Mimic Screen Alarm Summary Real Trend Screen Network Status Screen System Status Screen Field Device Status Screen
14.10	Max. No. of Operation Screens	Limited by Workstation Memory
14.11	Window display Update Period	1 sec - 2 sec
14.12	Alarm Management Capacity	Unlimited
14.13	Alarm Priority Levels	999
14.14	Trend Scan Period	10 ms
14.15	System Security	Multiple Levels of Passwords and User Ids.
14.16	OPC	Included - Server and Client
14.17	Log Report Options	On Demand, hourly, daily, weekly, monthly, shift report
14.18	Controller scan period	10 ~ 500 ms
14.19	Self-documentation Function	Included
14.20	Electronic Instruction Manual	Included
14.20.1	File Format	Acrobat PDF
14.20.2	Supplied Media	CD and Paper
14.20.3	Software Platform	Adobe Acrobat Reader

Start using FF today with Smar's SYSTEM302 Fieldbus Starter Set

Start with a complete FF system including:

- Specification
- Configuration
- Software
- Controller / Linking Device
- Six Field Devices
- Documentation Services
- Start-up
- Training

system 302 Fieldbus Starter Set

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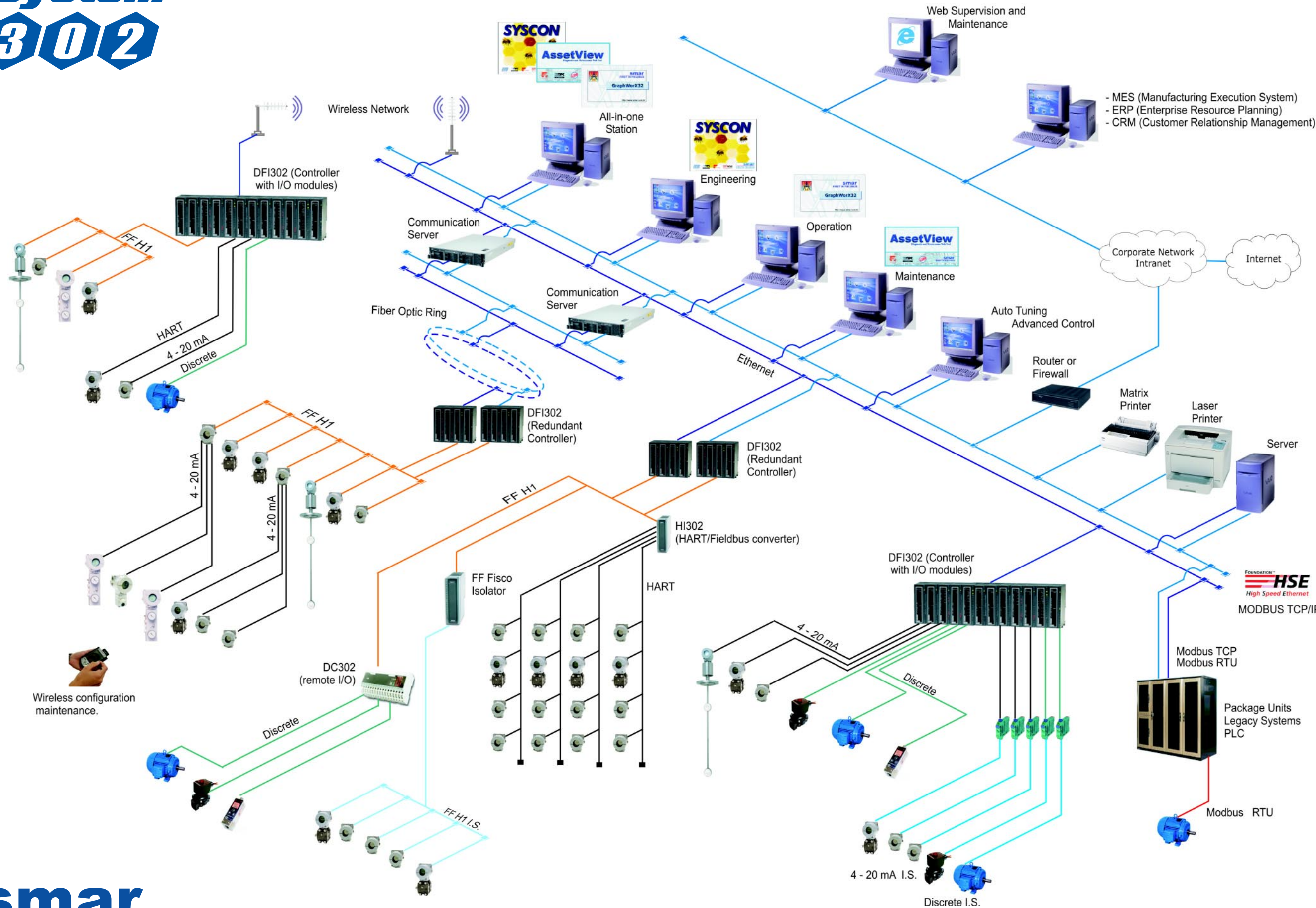
system 302

SYSTEM302 ARCHITECTURE

smar

SYSTEM302 Architecture

Message



SYSTEM302 SPECIFICATIONS

1	SYSTEM MANUFACTURER.....	SMAR	6.12	Power Supply.....	90~240 Vac (50~60 Hz)
2	SYSTEM MODEL.....	SYSTEM302	6.13	Connection Port.....	Parallel Port or Ethernet Port
3	SYSTEM WORKSTATIONS		7	SYSTEM DATA NETWORK	
3.1	Workstation Models.....	Operation Workstation Engineering Workstation Maintenance Workstation All-In-One Workstation	7.1	Bus Type.....	ETHERNET (FF HSE)
3.2	Description.....	Each workstation can be dedicated to a single function, or functions can be combined as necessary in the All-In-One workstation	7.2	Media Types.....	STP CAT 5 (Twisted Pair) Fiber Optics Wireless
3.3	Manufacturer.....	DELL or Similar	7.3	Redundancy.....	Complete 1:1 Redundancy with two separate backbones.
3.4	Processor Type.....	Pentium IV or better	7.4	Data Transmission Speed.....	10/100 Mbps
3.5	Main Memory (RAM).....	40 GB IDE or Higher	7.5	Max. Length.....	100 m, considering CAT 5 cable, 30 km considering optical fiber.
3.6	Hard-disk (HDD) Capacity.....	40 GB IDE or Higher	7.6	Typical Communication Load.....	Less than 70%
3.7	Standard Monitor size & color.....	21", SVGA	7.7	Supported Protocols.....	All Ethernet based protocols are accepted. All TCP/IP based protocols are accepted. FF HSE Modbus TCP/IP.
3.8	Standard Monitor Resolution.....	1280 x 1024	8	CABINETS	
3.9	Data Updating Cycle Min./Max.....	1 sec - 2 sec	8.1	Network Cabinets.....	A cabinet or part of a cabinet to accommodate all the network equipment, such as switches, cables and power supplies.
3.10	CD-ROM Drive.....	CD-RW 40x/10x/40-IDE	8.2	Power Distribution Cabinets.....	A cabinet or part of a cabinet to accommodate power circuits, breakers, transformers, UPS and main power supplies.
3.11	Data Storage Device.....	CD-RW, DVD-RW or DAT tape	8.3	Controller Cabinets.....	A cabinet or part of a cabinet to accommodate all controllers, Foundation Fieldbus Linking Devices, communication modules and its power supplies.
3.12	Keyboard.....	104 Keys Qwerty Keyboard, with User's function key and Key Lock Feature included; Industrial membrane keyboards are also available	8.4	I/O Cabinets.....	A Cabinet or part of a cabinet to accommodate all I/O cards with its terminal blocks.
3.13	Redundancy of operator Console.....	All workstations can be configured to access all data, allowing a full workstation redundancy	8.5	Intrinsically Safe Cabinets.....	A Cabinet or part of a cabinet to accommodate all Intrinsically Safe hardware, such as galvanic isolators, I.S. Barriers and its power supplies.
3.14	Power Supply.....	90~240 Vac (50~60 Hz)	8.6	Relay Cabinets.....	A Cabinet or part of a cabinet to accommodate all relays and its terminal blocks.
3.15	Accessories.....	External Speakers; Mouse; Keyboard	8.7	Marshalling Cabinets.....	A Cabinet or part of a cabinet to accommodate all the terminal blocks for wire crossing and for wire entrance.
3.16	Optionals.....	15" to 21" touch screen; Membrane Keyboard; Industrial Mouse; Industrial Trackball. Dual Monitors for a single workstation	8.8	General Cabinet Specifications	
3.17	Max. No. of Workstations.....	Unlimited	8.8.1	Standard Cabinet Size.....	2000Hx800Wx800D or 1800Hx800Wx600D. Different options are available.
4	SERVER		8.8.2	Standard Cabinet Color.....	RAL 6.5 (gray munsell). Different options are available.
4.1	Description.....	The server holds all configuration files, the alarm database, the trend database and the web server	9	PROCESS CONTROLLER	
4.2	Manufacturer.....	DELL or Similar	9.1	Model No.....	DFI302, composed by: DF51 and DF65 modules. The DFI302 is a modular controller using distributed parallel controllers with horizontal communication. This gives extra flexibility and unparallel capabilities to SYSTEM302
4.3	Processor Type.....	Pentium IV or better; Dual Pentium Servers also available	9.1.1	CPU for Process Control.....	DF51 for Process Control using FF Function Blocks
4.4	Main Memory (RAM).....	1GB or Higher	9.1.2	CPU for Discrete Control and Manufacturing.....	DF65 for Logic Control using Ladder Logic
4.5	Hard-disk (HDD) Capacity.....	40 GB IDE or Higher	9.2	CPU Redundancy.....	Dual Redundancy in separate Backplanes with totally separate Power Supplies for Improved Reliability and Availability.
4.6	HARD DISK Redundancy.....	RAID 5	9.3	Comm. Protocols Supported.....	FF HSE ETHERNET, MODBUS TCP Ethernet, Foundation Fieldbus H1.
4.7	Standard Monitor size & color.....	No Monitor	9.4	Communication Redundancy.....	Dual Redundant Ethernet
4.8	Data Updating Cycle Min./Max.....	1 sec - 2 sec	9.5	Power Supply Redundancy.....	Dual Redundancy with automatic and bumpless switchover
4.9	CD-ROM Drive.....	CD-RW 40x/10x/40-IDE	9.6	Processor Scanning Time.....	10 ~ 500 ms, user configurable
4.10	Data Storage Device.....	CD-RW, DVD-RW or DAT tape	9.7	CPU Memory back-up Capacity.....	10 years
4.11	Keyboard.....	104 Keys Qwerty Keyboard, with User's function key and Key Lock Feature included; industrial membrane keyboards are also available	9.8	Power Supply.....	90~240 Vac (50~60 Hz)
4.12	Power Supply.....	90~240 Vac (50~60 Hz)	9.9	Typical CPU Load.....	Less than 70%
4.13	Accessories.....	External Speakers; Mouse; Keyboard	9.10	System Restart Method.....	
4.14	Optionals.....	15" to 21" touch screen; Membrane Keyboard; Industrial Mouse; Industrial Trackball. Dual Monitors for a single workstation	9.10.1	After Short Time Power Failure.....	Automatic
4.15	Max. No. of Servers.....	Unlimited	9.10.2	After Long Time Power Failure.....	Automatic
5	COMMUNICATION SERVER		10	INPUT AND OUTPUT MODULES	
5.1	Description.....	The Communication Server is a communication gateway used to create two isolated networks: one for control and one for the workstations. They are not required in small architectures, where the workstation can perform the OPC gateway function.	10.1	Analog Input and Output Modules	
5.2	Manufacturer.....	Smr	10.1.1	Signal Types.....	Analog Input: 4-20 mA / 0-20 mA / 0-5V / 1-5V / 0-10 V / -10 -10 V; Analog Output: 4-20 mA / 0-20 mA / 0-5 V / 1-5 V / 0-10 V / -5-5 V / -10-10V
5.3	Redundancy of operator Console.....	1:1 complete redundancy	10.1.2	No. of Channels.....	8 for Analog Input Modules 4 for Analog Output Modules
5.4	Power Supply.....	90~240 Vac (50~60 Hz)	10.1.3	Signal Isolation.....	Isolated
5.5	Max. No. of Controllers / Server.....	8 Controllers of each type of controller	10.2	Temperature Input Modules	
5.6	Max. No. of Servers.....	Unlimited	10.2.1	Signal Types.....	RTD: Cu10 (GE); Ni120 (Edison Curve#7), Pt50, Pt100, Pt500 (IEC), Pt50 and Pt100 (JIS); TC: B, E, J, K, N, R, S, T, L and U (DIN) Voltage: -50 to 500 mV; Resistance: 0 - 2000 Ohms
6	PRINTERS		10.2.2	No. of Channels.....	8
6.1	Printer Type Option #01.....	Dot-Matrix for Alarms and Events Reports			
6.2	Printer Type Option #02.....	Laser for Alarm and Events Reports and Engineering Workstations			
6.3	Printer Type Option #03.....	Laser for Screen Copies			
6.4	Printer Type Option #04.....	Inkjet for Screen Copies			
6.5	Paper Size (Dot-Matrix).....	90 or 132 columns			
6.6	Speed (Dot-Matrix Printers).....	150 characters / sec or Higher			
6.7	No. of Char / Line (Dot-Matrix).....	10 characters / inch			
6.8	Paper Size (Laser and Inkjet).....	Letter, Legal, Executive, A4, A5, JIS B5, A3 and custom media			
6.9	Average Speed (Laser Printers).....	17 ppm			
6.10	Average Speed (Inkjet Printers).....	11 ppm			
6.11	Color.....	Color or Black & White			